

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
17 July 2003 (17.07.2003)

PCT

(10) International Publication Number  
WO 2003/058022 A3

(51) International Patent Classification<sup>7</sup>: E21B 23/00

(21) International Application Number: PCT/US2002/039425

(22) International Filing Date: 10 December 2002 (10.12.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/343,674 27 December 2001 (27.12.2001) US

(71) Applicant (for all designated States except US): ENVENTURE GLOBAL TECHNOLOGY [US/US]; 16200 A. Park Row, Houston, TX 77084 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): WADDELL, Kevin, Karl [US/US]; 11007 Sprucedale Court, Houston, TX 77077 (US). BULLOCK, Michael, Dennis [US/GB]; The Beeches, 25 Hillhead Road, Aberdeen, AB15 9EJ (GB). HOCKADAY, Joel, Gray [US/US]; 17318 Ginger Fields Land, Tomball, TX 77375 (US). JACKSON, Tance, Alan [US/US]; 7209 Ridgemoor Lane, Plano, TX 75025 (US).

(74) Agents: MATTINGLY, Todd et al.; Haynes and Boone, LLP, Suite 4300, 1000 Louisiana Street, Houston, TX 77002-5012 (US).

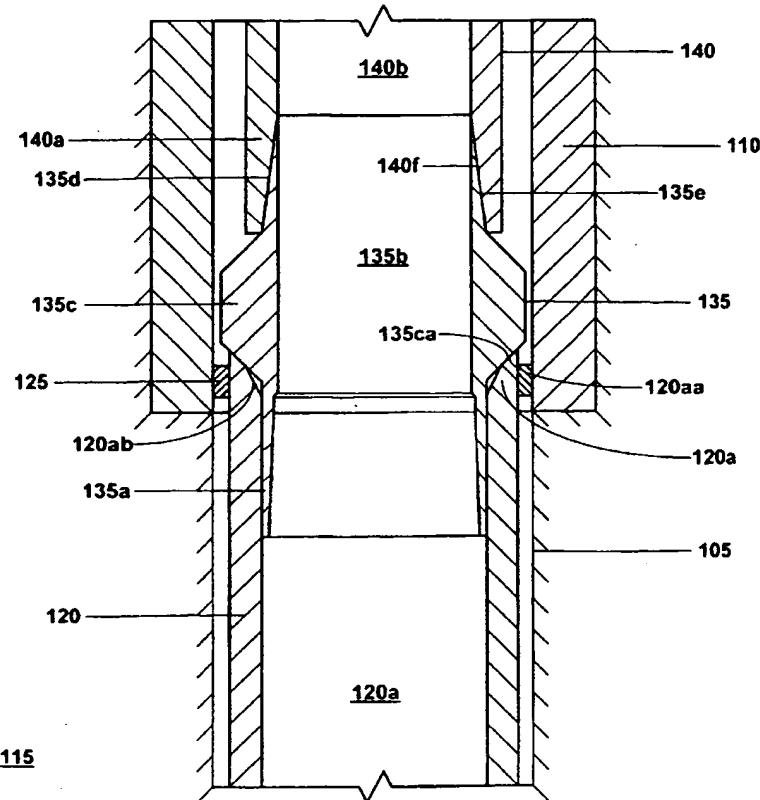
(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

{Continued on next page}

(54) Title: SEAL RECEPTACLE USING EXPANDABLE LINER HANGER

WO 2003/058022 A3



(57) Abstract: The end of an expandable liner hanger (120) provides a receptacle for another tubular liner (135).



Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK,  
TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:

8 July 2004

**Declaration under Rule 4.17:**

— of inventorship (Rule 4.17(iv)) for US only

**Published:**

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US02/39425

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : E21B 23/00  
US CL : 166/207,208,382

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
U.S. : 166/207,208,382,384

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,601,343 A (Lindsey, Jr. et al.) 22 July 1986 (22.07.1986), Figures 1 and 2.	1,3,5,7
---		-----
Y		9
X	US 4,942,925 A (Themig) 24 July, 1990 (24.07.1990), Figure 3.	1,7,8
---		-----
Y		9
X	US 4,856,592 A (Van Bilderbeek et al.) 15 August 1989 (15.08.1989), Figure 4	1,7,8

<input type="checkbox"/>	Further documents are listed in the continuation of Box C.	<input type="checkbox"/>	See patent family annex.
*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search	Date of mailing of the international search report
16 May 2003 (16.05.2003)	28 MAY 2004
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer Lynne H. Browne <i>U. H. Browne</i> Telephone No. 703-308-1113